

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1 August 2007 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 32 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2006/0206870 to Moulden, Jr. et al. (Moulden).

With regard to a memory and a processor, as shown in claim 32, Moulden teaches a target machine (Fig. 3, target machine 330; par. 45). With regard to instructions stored in memory to access a test tool exclusively performed on a server computer, and perform testing using the test tool through a communication channel, as shown in claim 32, Moulden teaches a test tool agent that accesses a test tool that is

performed only on a tool machine for testing through a communication channel (pars. 45-47; Fig. 3, test tool agent 332).

With regard to a memory and a processor, as shown in claim 37, Moulden teaches a tool machine (Fig. 3, tool machine 320; par. 45). With regard to a memory to store instruction to access a remote thin client computer; transmit testing information from a resident test tool through a communication channel; and exclusively perform the resident test tool, Moulden teaches test tools that are executed only on the test tool machine and that test the target machine through a communication interface (pars. 45-47).

4. Claim 47 is rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2004/0153772 to Gorshenev et al. (Gorshenev).

With regard to one or more remote thin client computers, as shown in claim 47, Gorshenev teaches a computing device (Figs. 1, 2, computing device 104). With regard to a server computer configured to identify software modules performed on the server computer used to provide graphical tests through a communication channel to particular remote computers, as shown in claim 47, Gorshenev teaches a server with remote testing modules for communicating through a network with a computing device for testing a graphical user interface (par. 30).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6-8, 12, 13, 15, 19, 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication 2001/0012986 to Conan et al. (Conan) in view of Gorshenev and Moulden.

With regard to establishing a session with a server computer and receiving a set of instructions and data directed to providing testing from the server computer, based on performing a test tool resident at the server computer, as shown in claim 1, Conan teaches submitting test cases including test scripts from a job execution process from a server computer to a client process for execution (pars. 30, 38; Figs. 2, 3, pars 33-45). With regard to creating a virtual channel and transferring testing information through the virtual channel, as shown in claim 1, Conan teaches using sockets for communication between the server and the client process and transmitting test results back to the server from the client (pars 32, 40, 41).

Conan does not teach graphics testing or that the test tool is performed at the server computer, as shown in claim 1. Gorshenev teaches executing a testing module at the server for graphical user interface (GUI) testing (par. 30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Conan, to include GUI testing from a server, as taught by Gorshenev, because then the user interface would have been ensured to display correctly (par. 6).

Conan does not teach that the test tool is exclusively executed at the server computer. Moulden teaches a test tool that is executed only on a test tool machine

(pars. 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Conan, to include a test tool machine for executing the test tools, as taught by Moulden, because then less energy would have been spent developing interfaces and more resources would have been devoted to test tool development and application testing (Moulden, pars. 4-6).

With regard to receiving a request from the server computer, as shown in claim 2, Conan teaches that the server submits the test case to the client process (par. 30).

With regard to forming a virtual channel through a wide area network or the Internet, as shown in claims 6 and 7, Conan teaches using web communication and TCP/IP for the sockets (pars. 3, 24).

With regard to registering a unique virtual identifier with the server computer, as shown in claim 8, Conan teaches registering the client resources with the server (par. 45).

With regard to a personal computer, as shown in claim 12, Conan teaches a computer (pars. 22, 23).

With regard to establishing a session with a remote thin client, storing a set of instructions and data in a registry and sending the set of instructions and data to a remote thin client computer and performing the testing by a resident test tool, as shown in claim 13, Conan teaches submitting test cases including test scripts from a job execution process from a server computer to a client process for execution (pars. 30, 38; Figs. 2, 3, pars 33-45). With regard to creating a virtual channel, as shown in claim

13, Conan teaches using sockets for communication between the server and the client process and transmitting test results back to the server from the client (pars 32, 40, 41).

Conan does not teach graphics testing or that the test tool is performed at the server computer, as shown in claim 13. Gorshenev teaches executing a testing module at the server for graphical user interface (GUI) testing (par. 30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Conan, to include GUI testing from a server, as taught by Gorshenev, because then the user interface would have been ensured to display correctly (par. 6).

Conan does not teach that the testing is exclusively performed by a resident test tool at the server computer. Moulden teaches a test tool that is executed only on a test tool machine (pars. 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Conan, to include a test tool machine for executing the test tools, as taught by Moulden, because then less energy would have been spent developing interfaces and more resources would have been devoted to test tool development and application testing (Moulden, pars. 4-6).

With regard to sending a request to a remote client, as shown in claim 15, Conan teaches that the server submits the test case to the client process (par. 30).

With regard to forming a virtual channel through a wide area network or the Internet, as shown in claims 19 and 20, Conan teaches using web communication and TCP/IP for the sockets (pars. 3, 24).

With regard to a server computer, as shown in claim 23, Conan teaches a server computer (pars. 22, 23).

7. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Gorshenev and Moulden as applied to claims 1 and 13 above, and further in view of US Patent Application Publication 2003/0098879 to Matthews (Matthews).

Conan, Gorshenev and Moulden teach all the limitations of claim 1 upon which claim 3 depends and claim 13 upon which claim 14 depends. Conan, Gorshenev and Moulden do not teach receiving a request to the server to establish the session, as shown in claims 3 and 14. Mathews teaches submitting requests to the server from a client computer (par. 32, Figure 3, step 100). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan, Gorshenev and Moulden, to submitting a request to the server, as taught by Mathews, because then an user at a client would have been able to verify the proper operation of software at the client.

8. Claims 4, 5, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Gorshenev and Moulden as applied to claims 1 and 13 above, and further in view of US Patent No. 5,896,494 to Perugini et al. (Perugini).

Conan, Gorshenev and Moulden teach all the limitations of claim 1 upon which claims 4 and 5 depend and claim 13 upon which claims 16 and 17 depend. Further, with regard to a test tool that is a series of tests that are part of a test application program resident on the server computer, as shown in claims 4, 5, 16 and 17, Conan

teaches generating a test script based on test cases selected from a test bucket on the server (par. 30). Conan, Gorshenev and Moulden do not teach that the instructions comprise a dynamic link library (DLL), as shown in claims 4 and 16. Perugini teaches diagnostic modules that are DLL's (col. 9, line 43 - col. 10, line 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan, Gorshenev and Moulden, to include DLL's for testing modules, as taught by Perugini, because then computers using a Windows operating system would have been tested.

9. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Gorshenev and Moulden as applied to claims 1 and 13 above, and further in view of US Patent No. 5,978,575 to Packer (Packer).

Conan, Gorshenev and Moulden teach all the limitations of claim 1 upon which claim 9 depends and claim 13 upon which claim 21 depends. Further, with regard to executing tests in a list of tests prior to succeeding tests in the list of tests, as shown in claim 9, Conan teaches submitting a test script to be executed by the client computer (pars. 30, 43). Conan, Gorshenev and Moulden do not teach timing each of the tests and storing the time, as shown in claim 9, or timing how long information related to graphics testing is sent, as shown in claim 21. Packer teaches timing the execution of a test (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan, Gorshenev and Moulden, to include timing tests, as taught by Packer, because then the

test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

10. Claims 10, 11, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Gorshenev and Moulden as applied to claims 1 and 13 above, and further in view of US Patent No. 6,526,371 to Klein et al. (Klein).

Conan, Gorshenev and Moulden teach all the limitations of claim 1 upon which claims 10 and 11 depend and claim 13 upon which claim 22 depends. Conan, Gorshenev and Moulden do not teach timing the establishing of a session, as shown in claims 10 and 22, or timing the logging off, as shown in claim 11. Klein teaches timing the response time when a transaction is initiated (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan, Gorshenev and Moulden, to include measuring response time, as taught by Klein, because then performance of various applications would have been measured (Klein et al., col. 1, lines 33-49).

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Gorshenev, Moulden and Perugini. as applied to claim 17 above, and further in view of Packer.

Conan, Gorshenev, Moulden and Perugini teach all the limitations of claim 17 upon which claim 18 depends. Conan, Gorshenev, Moulden and Perugini do not teach timing each of the tests, as shown in claim 18. Packer teaches timing the execution of a test (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan,

Gorshenev, Moulden and Perugini, to include timing tests, as taught by Packer, because then the test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Packer and Moulden.

With regard to means for performing graphics tests from a remote test tool resident on a server computer and means for facilitating receipt of the graphics tests on the thin client computer, as shown in claim 24, Gorshenev teaches testing modules on a server and communication through a network with a client for GUI testing (par. 30).

Gorshenev does not teach means for timing the graphics tests, as shown in claim 24. Packer teaches timing the execution of a test (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify GUI testing, as taught by Gorshenev, to include timing tests, as taught by Packer, because then the test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

Gorshenev does not teach that the test tool is exclusively executed on a server computer, as shown in claim 24. Moulden teaches a test tool that is executed only on a test tool machine (pars. 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GUI testing, as taught by Gorshenev, to include a test tool machine for executing the test tools, as taught by Moulden, because then less energy would have been spent developing interfaces and

more resources would have been devoted to test tool development and application testing (Moulden, pars. 4-6).

13. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Packer and Moulden as applied to claim 24 above, and further in view of Perugini.

Gorshenev, Packer and Moulden teach all the limitations of claim 24 upon which claim 25 depends. Gorshenev, Packer and Moulden do not teach a dynamic link library, as shown in claim 25. Perugini teaches diagnostic modules that are DLL's (col. 9, line 43 - col. 10, line 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify GUI testing combination, as taught by Gorshenev, Packer and Moulden, to include DLL's for testing modules, as taught by Perugini, because then computers using a Windows operating system would have been tested.

14. Claims 26 and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Packer and Moulden as applied to claim 24 above, and further in view of Conan.

Gorshenev, Packer and Moulden teach all the limitations of claim 24 upon which claims 26 and 27 depend. Gorshenev, Packer and Moulden do not teach establishing a virtual channel through a wide area network or the Internet, as shown in claims 26 and 27. Conan teach using web communication and TCP/IP for the sockets (pars. 3, 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify GUI testing combination, as taught by Gorshenev, Packer and Moulden,

to include sockets through the web, as taught by Conan et al., because the sockets would have facilitated communication between the server and the client.

15. Claims 28, 30, 31 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Moulden and Packer.

With regard to means for accessing a remote thin client computer and storing instructions and data used by a test tool resident at the server computer to provide testing to the remote thin client computer, as shown in claim 28, Conan teaches submitting test cases including test scripts from a job execution process from a server computer to a client process for execution (pars. 30, 38; Figs. 2, 3, pars 33-45). With regard to means for identifying particular instructions and data, as shown in claim 28, Conan teaches using a test request to select test cases to be used to generate the test script (par. 28). With regard to means for setting up a virtual channel, as shown in claim 28, Conan teaches setting up socket connections (pars. 40, 41).

Conan does not teach a test tool performed exclusively at the server computer, as shown in claim 28. Moulden teaches a test tool that is executed only on a test tool machine (pars. 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GUI testing, as taught by Gorshenev, to include a test tool machine for executing the test tools, as taught by Moulden, because then less energy would have been spent developing interfaces and more resources would have been devoted to test tool development and application testing (Moulden, pars. 4-6).

Conan does not teach means for timing the tests, as shown in claim 28. Packer teaches timing the execution of a test (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing, as taught by Conan, to include timing tests, as taught by Packer, because then the test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

With regard to means for setting up the virtual channel over a wide area network or the Internet, as shown in claims 30 and 31, Conan teaches using web communication and TCP/IP for the sockets (pars. 3, 24).

With regard to contacting a server to send instructions and data, as shown in claim 42, Conan teaches submitting test cases stored at a server computer to a client process for execution (pars. 30, 38). With regard to setting up a virtual channel in which testing is performed by the test tool, as shown in claim 42, Conan teaches setting up socket connections for communicating testing information from the job execution process on the server and the test scripts transferred to the client (pars. 40, 41).

Conan does not teach a test tool performed at the server computer, as shown in claim 42. Moulden teaches a test tool that is executed only on a test tool machine (pars. 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Conan, to include a test tool machine for executing the test tools, as taught by Moulden, because then less energy would have been spent developing interfaces and more resources would

have been devoted to test tool development and application testing (Moulden, pars. 4-6).

Conan does not teach determining the beginning and ending of individual tests, as shown in claim 42, or timing the tests and storing the time, as shown in claims 43 and 44. Packer teaches timing the execution of a test and storing the times (Abstract, col. 5, line 23 - col. 6, line 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing, as taught by Conan, to include timing tests, as taught by Packer, because then the test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

16. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conan in view of Moulden and Packer as applied to claim 28 above, and further in view of Perugini.

Conan, Moulden and Packer teach all the limitations of claim 28 upon which claim 29 depends. Conan, Moulden and Packer do not teach a dynamic link library, as shown in claim 29. Perugini teaches diagnostic modules that are DLL's (col. 9, line 43 - col. 10, line 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing combination, as taught by Conan, Moulden and Packer, to include DLL's for testing modules, as taught by Perugini, because then computers using a Windows operating system would have been tested.

17. Claims 33 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulden in view of Gorshenev.

Moulden teaches all the limitations of claim 32 upon which claim 33 depends and claim 37 upon which claim 40 depends. Moulden does not teach that the test tool relates to graphics testing. Gorshenev teaches testing a graphical user interface (GUI). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Moulden, to include GUI testing, as taught by Gorshenev, because then the GUI would have been ensured to display correctly (Gorshenev, par. 6).

18. Claims 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulden in view of Conan.

Moulden teaches all the limitations of claim 32 upon which claim 34 depends and claim 37 upon which claim 38. Moulden does not teach a virtual channel, as shown in claims 34 and 38. Conan teaches using sockets for communication between the server and the client process and transmitting test results back to the server from the client (pars 32, 40, 41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Moulden, to include sockets for communication, as taught by Conan, because a reliable communication channel would have been established.

19. Claims 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulden in view of Perugini.

Moulden teaches all the limitations of claim 32 upon which claim 35 depends and claim 37 upon which claim 39 depends. Moulden does not teach a dynamic link library, as shown in claims 35 and 39. Perugini teaches diagnostic modules that are DLL's (col.

9, line 43 - col. 10, line 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the computer testing, as taught by Moulden, to include DLL's for testing modules, as taught by Perugini, because then computers using a Windows operating system would have been tested.

20. Claims 36 and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Moulden in view of Perugini et al.

Moulden teaches all the limitations of claim 32 upon which claim 36 depends and claim 37 upon which claim 41 depends. Moulden does not teach means for timing the tests, as shown in claims 36 and 41. Packer teaches timing the execution of a test (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify computer testing, as taught by Moulden, to include timing tests, as taught by Packer, because then the test would have given an accurate reflection of computer performance (Packer, col. 1, lines 36-55).

21. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Perugini.

With regard to a processor configured to initiate a session with a remote thin client computing device and a memory module to perform testing regarding a resident graphics test to a remote compute using an interface, as shown in claim 45, Gorshenev teaches a server with a testing module for GUI testing through a network.

Gorshenev does not teach dynamic link libraries or graphics testing, as shown in claim 45. Perugini teaches diagnostic modules that are DLL's (col. 9, line 43 - col. 10, line 7). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify GUI testing, as taught by Gorshenev, to include DLL's for testing modules, as taught by Perugini, because then computers using a Windows operating system would have been tested.

22. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Perugini as applied to claim 45 above, and further in view of Conan.

Gorshenev and Perugini teach all the limitations of claim 45 upon which claim 46 depends. Gorshenev and Perugini do not teach a virtual channel, as shown in claim 46. Conan teaches using sockets for communication between the server and the client process and transmitting test results back to the server from the client (pars 32, 40, 41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GUI testing combination, as taught by Gorshenev and Perugini, to include sockets for communication, as taught by Conan, because a reliable communication channel would have been established.

23. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorshenev in view of Conan.

Gorshenev teaches all the limitations of claim 47 upon which claim 48 depends. Gorshenev et al. do not teach a virtual channel, as shown in claim 48. Conan teaches using sockets for communication between the server and the client process and transmitting test results back to the server from the client (pars 32, 40, 41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the GUI testing, as taught by Gorshenev, to include sockets for

communication, as taught by Conan et al., because a reliable communication channel would have been established.

Response to Arguments

24. Applicant's arguments filed 6 March 2008 have been fully considered but they are not persuasive. Applicant refers to Moulden which is cited for teaching "exclusive testing at a server". Applicant states that the target machines 330, which correspond to "clients", include a test tool agent 332, which suggests that some testing application must be present in the "client machine" or target machines 330, in order for the system to function. Referring to Moulden, Figure 3 shows the target machine 330 with the test tool agent 332. The only mention of the test tool agent in Moulden is found in paragraph 45, where Moulden says "Further, an exemplary target machine 330 includes a test tool agent 332." There is no disclosure of the test tool being executed on the target machine, which corresponds to the client. Whatever function the test tool agent has Moulden, the test tool agent is separate from the test tool.

Applicant has further amended the claims to recite "thin client", which Applicant states is not taught or suggested by the target machines 330 of Moulden. However, the target machines, as taught by Moulden, perform all the functions of a thin client as shown in the claims, and therefore meet the claim language for a thin client in the claims.

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MANUEL L. BARBEE whose telephone number is (571)272-2212. The examiner can normally be reached on Monday-Friday from 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/613,179
Art Unit: 2857

Page 20

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Primary Examiner, Art Unit 2857

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June 5, 2008